

Effect of a rapid clinical protocol to the conversion from central venous hemodialysis catheter to arteriovenous access

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ABSTRACT

Purpose: Evaluation of the rapid conversion protocol that includes an ambulatory dialysis access center (DAC), and a three-step clinical pathway, to the conversion rate from central venous hemodialysis (HD) catheter to functioning arteriovenous (AV) access.

Methods: Prospective data were collected on 97 consecutive catheter-dependent HD patients. DAC is defined as an ambulatory unit, able to accommodate clinic visits, ultrasound examinations, surgical, interventional and hybrid procedures. Step I: initial evaluation, vein mapping and creation of AV access. Step II: clinical evaluation in two weeks and if failure identified, secondary procedure to restore function. Step III: evaluation in four weeks after creation, and additional procedure to promote maturation if indicated. The success rate, time to conversion and time to catheter removal were recorded.

Results: From the 97 consecutive referred patients, eight patients were excluded. From the remaining 89 patients, 99% were successfully converted to AV access. Seventy-three percent of the patients were converted to native arteriovenous fistulae and 27% of the patients to prosthetic arteriovenous shunts. The median time from creation to HD catheter removal was 63 (SD 41) days. Fifty-two percent of the patients required at least one additional secondary procedure to accomplish successful conversion

Conclusions: High rates of timely conversion from catheter to AV access, primarily AV fistulae, can be accomplished within the context of the rapid conversion protocol.

Keywords: Arteriovenous fistula, Arteriovenous graft, Arteriovenous access, Central venous catheter, Hemodialysis